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ABSTRACT

Research was undertaken to compare the attitudes toward instructional media of seconeary education majors who took a full course in media with those of comparable students who received an introduction to media as part of a general methods course. Based on the previous findings that improved attitude led to improved and more effective utilization, the Media Attitude Profile was given to students who had taken either the media or the methods course. The former group exhibited significantly more positive attitudes toward media. This was most likely due to the facts that these students were given greater information support with respect to media and were prepared to conceptualize more properly the role of instructional media in education. In addition, the students in the media classes were at a more advanced stage in the teacher training program and thus it can be hypothesized that they more fully understood the overall integration of all aspects of the teaching-learning situation and were less anxious about using various instructional tools. In the light of these findings, it behooves teacher educators to include media training in teacher preparation programs, since media will be an increasingly important factor in education. (Author/LB)

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"Affective Reactions of Students In Media Courses vs. Methods Courses"

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Introduction

Today, many colleges and universities are working on competency-based and other approaches to teacher education. Such sophisticated endeavors sometimes place our more "everyday" curriculum decisions in a less than glamorous light. Nevertheless, these decisions must still be made and until we can validate a more precise model for curriculum change we must rely on our available data to help us with our problems. Such was the case in the present study. What was needed was an answer to the question: Could "equipment competency" be taught without supportive rationale in a required methods course and still have students end up with high positive attitudes toward media?

The decision to incorporate instruction geared toward operational competency of basic audiovisual devices into a secondary education methods course was predicated on the notion that expertisé in the use of such equipment is a valuable skill for teachers to possess. There can be little quarrel with this rationale. However, training in the operation of equipment as compared to study of the appropriate uses of equipment along with operational training might be suspected to produce subjects reflecting more than just differences in face-value competencies. The differences which might occur and which might be expected to have a more pronounced and lasting effect are those of attitudes on the part of the subjects toward media. It is with this attitudinal problem that the authors of this study were concerned.

Objectives

The purpose of this investigation was to discover the attitudes of various groups toward instructional media. By using the Media Attitude Profile (MAP) developed by Dawson, Johnson and Paulson (1970) at Teaching

Research in Oregon, we sought to determine the media attitudes of students taking media courses, students taking secondary methods courses and of in-service teachers taking a media course. We also collected data reflecting the media attitudes of College of Education faculty members, to use on a comparative basis.

Again, the study was an effort to offer empirical input to answering the question of whether equipment training only in a required secondary methods course would produce media attitudes similar to those of students who took a full-fledged media utilization course as an elective.

Theoretical background

Our theoretical point of departure was the widely accepted notion that many teachers fear the use of instructional media. (Tobias, 1963; Handlemen, 1960; Knowlton and Hawes, 1962). Gerald Torkelson, (1972) in reviewing the massive two volume work To Improve Learning, mentioned a suspicion of instructional technology on the part of some school people. It is his opinion that the relationships of instructional technology to the teaching and learning processes need to be conceptualized in such a way as to minimize teacher resistance. For our study we began by accepting the notion that if prospective teachers are trained to conceptualize instructional media in terms of the teaching - learning processes, that fear of media will never have the chance to develop. Ingrained in this assumption is also the notion that if students show positive attitudes toward utilizing media while being trained, they will also demonstrate successful application of media once they start teaching. Evidence to this effect was noted by Acquino (1970) who said that improved attitudes imply a desire on the part of a user which not only leads to increased utilization, but also to more effective utilization of educational media.

The importance of teachers having positive attitudes toward media has also been noted in other studies. Neidt and Sjogren (1968) reported a study which clearly demonstated that a decline in attitudes toward a course on the part of students can be expected over the time span of the course when only one method of instruction is used. In that study there was a consistent decline in the mean attitude scores over five administrations of attitude scales during courses. The Likert-type scales were constructed by Neidt and Sjogren and resulted in 26-item instruments with equivalent forms. The scales concentrated on student opinions of the methods used to teach courses and are of less general value for determining overall media attitudes than is the Media Attitude Profile used in the present study.

Another study by Smith (1972) also supported the idea that those who have had more audiovisual material training will use more audiovisual materials when they get out to teach. This particulary study was done with students in methods courses and not in audiovisual courses. There is also evidence that male and female "acceptors" of newer media are more dominant, aggressive and ready to change than are male and female "rejectors" who turn out to be more receptive to the leadership of others and who work well under the friendship and dependence upon others. (Grant, 1972).

It is also of importance to note that resistence to instructional technology can be expected to be high among college students. Sidney G. Tickton (1972) has said, "Resistance to instructional technology among students and teachers appears to be in direct ratio to the grade level . . . and fears seem to center around prospects of depersonalization, standardization, conformity and the gradual elimination of whatever deversity now exists". In other words, the older we get the more likelihood there is that we might resist and perhaps even resent technology.

No doubt the technical jargon that has developed along with the increased present usage of media has had some negative attitudinal affects. There

is a history of such occurances in the literature, particularly with regard to teaching machines and automated instruction. Tobias (1963) found that elementary and junior high teachers had significantly more positive attitudes coward terms describing traditional instructional devices such as "workbook" and "flashcard" than they did toward terms describing programed media such as "programed text" and "programed instruction". In turn, the programed terms were rated significantly more favorable than were labels also referring to programed instruction but stressing automation, such as "teaching machine" and "automated instruction". Tobias also found terms which differed only in the degree to which they connoted mechanization or automation. Not only were teachers biased toward terms implying automation but there was the possibility that teachers viewed such media as threatening to their roles.

There has always been a problem in trying to measure the effect of instruction in media upon a student's eventual application of media skills in real instructional settings. Therefore, researchers have usually turned toward attitudinal measures which carry with them the assumption that "better attitude means better utilization". However, Acquino (1970) did study teacher-media relationships as teachers taught after having had a media course. He attempted to determine differences between attitudes on the part of teachers who perceived availability and accessibility of educational media in their own teaching environments. The findings were that teachers were very concerned about both availibility and accessibility of audiovisual materials and equipment, although less concerned about availability of equipment. To secure his data, Acquino used an instrument called the New Media Attitude Scale (NMAS), developed and tested by Ramsey (see Acquino 1970). Acquino reported that while the NMAS was suitable enough as a general attitude toward media, that a newer scale, the Media Attitude Profile (MAP) showed greater potential to reflect attitudes toward specific media applications.

To summarize, studies have shown that positive attitudes on the part of teachers toward media produce more and increasingly effective media utilization. Students who have been "receivers" of this increased utilization have also viewed as desirable media usage as opposed to conventional teaching methods, although college age students are less inclined to reflect as positive attitudes toward media as are their younger counterparts.

No studies were found which attempted to deliniate attitudinal differences on the part of trainees who were exposed to operational versus operational plus theoretical inputs regarding the utilization of media. Therefore, the present study offered an opportunity to collect data on this important curricular question and to do so in the context of a genuine, existing instructional situation and not one which was contrived.

Methods and Procedures

In the initial phase of the study two sections each of a media utilization course (an elective) and a secondary methods course (a requirement) were involved. Students randomly registered for the courses without any knowledge of an impending experiment and after drop-outs, one hundred students were included in the study. A recognized limitation of the study was that it was impossible to exercise random selection of the students. But as Hall (1972) points out in his summary of research methodology employed in Title VII-A studies, this is not at all an unusual occurance nor one that cannot be accounted for with proper care. Both existing sections of the media utilization course were used in the study and to use Hall's terms the only "opportunistic or accidental selection" factors used in the samplings for the secondary methods section were that the teachers of those sections made them "available". There could be no question of random assignment to a treatment since treatments were the existing, pre-conceived instructional

plans for the courses. The only real opportunity for randomization was in the assignment of class sections to levels in the Solomon Four-Group design used to guard against a possible pre-test, post-test interaction. (Cambell and Stanley, 1963). The section assignments were accomplished by drawing numbers.

The Media Attitude Profile (MAP) was the instrument used in the study. It was developed by Paul Dawson, John Johnson and Leon Paulson of Teaching Research in Oregon for the National Special Media Institute. (Also, see Dawson, 1971). The authors used the ratings of independent judges through extensive sorting techniques to choose the best items and arrange them in sub-scales. Test reliability information both for subtest correlations with overall test scores and for test-retest reliability coefficients are included in the previously cited reference. An overall estimate of the MAP's internal reliability yielded a Pearson product moment coefficient of .89.

In addition to an overall media attitude score, the instrument contains seven sub-scales, the descriptions of which are shown in Figure 1.

Figure 1 about here

Instruction, or in this case the treatment, in the media utilization course meant a broad, survey type of substantive approach to the use of media with much emphasis upon students doing tasks rather than being passive observers of instruction. A text book, AV Instruction: Media and Methods, 3rd edition, (Brown, Lewis and Harcleroad, 1968) was used as the main information source and student expectations were all stated in behavioral terms. (A detailed description of the methods used in the course is given in another study by Colton, 1974).

Instruction (again the treatment) in the secondary methods course included self-instructional modules designed to teach basic equipment operation and from small amounts of readings included in the course manual to help students conceptualize the ways that media could be integrated into their teaching styles. It should also be noted that in addition to regular classroom lectures and discussions students in the methods courses participated in microteaching sessions devoted to the development and utilization of certain teaching skills.

After appropriate sections of the media and methods courses had been administered the Media Attitude Profile, a regular 18-week semester ensued with the previously described treatments taking place. MAP post-tests were administered the last week of the semester. The MAP was also completed at pre-test time by 66 College of Education faculty members who chose to participate. Also, a class of 16 in-service teachers enrolled in an extension section of the same media course (taught by the same instructor and for the same length of time) took the pre-test, post-test MAP's.

Two semesters later, in a countinuation phase of the study, students again randomly registered in two sections each of the media and methods classes and were administered the MAP's this time using a post-test only design. (Total N=82). Instruction in the media courses remained much the same as it had been before except for the inclusion of even more specific learning experiences through the use of modules. Instruction in the methods courses continued to emphasize the proper operation of equipment as students planned and then were video-taped while teaching mini-lessons to their peers.

Results

Table I shows the mean pre-test scores of all groups on the MAP. Although participants in the media extension class scored slightly higher than other groups the difference was not significant; nor was the difference

significant between scores of students enrolled in a section of the regular media class versus students enrolled in a section of the methods class.

Table I about here

Table 2 shows the scores of all groups of the post-test of the MAP, with exception of the faculty whose pre-test score is given, with the scores broken down into the various sub-scales which were identified in Figure I.

Multivariate analysis of group means of the MAP show significant differences between all groups compared. Media classes, combining the two sections and excluding the extension class, were significantly "higher" ($p < .05$) than were methods classes combined. "Higher" meant more positive media attitudes--items in the MAP were cleverly worded to disguise their positive or negative direction. Scores were then converted to high scores for positive and low for negative attitudes. The media extension class was significantly higher ($p < .01$) than were regular media classes. Post-test scores from on-campus students in the media classes and the methods classes were grouped together and the means found to significantly higher ($p < .05$) than were the pre-test scores of faculty members.*

Table 2 about here

Of particular interest, however, were the analyses of the individual scales of the MAP shown in Table 3. Students taking the media classes,

*The comparison of faculty pre-test scores with student post-test scores might be looked upon as an "unfair" comparison. Yet, in as much as faculty members were not to undergo any formal media training, it was felt a pre-test measure of their attitudes was more appropriate than a post-test measure which could have been contaminated by knowledge of the experiment.

excluding those in the extension section, were significantly higher than students in the methods courses on the "F" scale, indicating greater belief in the future application of media in schools. Media students were also significantly higher than methods students on the "Dp" scale, which meant they were less concerned about the use of media being "depersonalizing". ("Higher" on the "Dp" scale was a "turn-around" value which was converted to make analysis easier.)

Table 3 about here

The experienced in-service teachers who were enrolled in the extension section of the media class were significantly higher on five scales than were their non-experienced on-campus counterparts. The scales were: the "Dp" and the "F", whose meanings have already been discussed; the "MS" scale, reflecting positive attitudes toward media specialists; the "S" scale, affirming that media would have positive affects on students; and the "T" scale, indicating a positive feeling about the affects of media on teachers.

When media students, again excluding those in the extension section, and methods students scores were grouped together and compared with faculty scores, students were significantly higher on only the "TO" scale, that which reflects a feeling that teacher organizations will play a major role in affecting media policies and practices in schools.

In the continuation phase of the study a post-test only design was employed to determine the differences between media and methods classes scores on the Media Attitude Profile. The post-test only design was chosen since in the initial phase of the study there had obviously been an interaction effect of the pre-test on the post-test scores of groups. Table 4 shows the

comparison of the sub-scale scores of the combined media classes versus the combined methods classes. Without exception, students in the media classes had significantly more positive attitudes than did students in the methods classes on all of the sub-scales of the MAP.

In summarizing the results, the data from the initial phase of the study reveals the following rank-order of Media Attitude Profile scores: (highest or most positive to lowest) (1) media extension class, (2) faculty, (3) media classes on campus, and (4) methods classes.

In terms of subscale analyses (see Table 3) of the initial phase data, the media classes ranked significantly higher than the methods classes on the "Dp" scale (saw media as less depersonalizing) and the "F" scale (indicating a general positive attitude toward increased applications of instructional media technology in the future). The media extension class ranked significantly higher than the regular on-campus media class on the "Dp" and the "F" scale as well as the "Ms", "S" and "T" scales. (Again, refer to Figure 1 for subscale descriptions).

The continuation phase of the study yielded total scores and subscales for the media classes and the methods classes on campus. The media classes ranked well above the methods classes in total score and significantly higher on all the subscales.

Conclusions

The data indicate that students who experienced "equipment only" practice via a methods course held lower attitudes toward educational media than students who were presented conceptual rationale and given equipment practice in a media utilization course.

Overall, there are several theoretical explanations for the major attitudinal differences between these two major groups. The first consideration is derived from examination of the basic attirbutes of attitudes

and the differing educational levels, course contents and teaching-learning experiences between the two groups.

Smith, Bruner and White (1970) identified "differentiation" and "informational support" as two important characteristics of the object of an individual's sentiment. Informational support is the amount of available information that may go into building an individual's conception (positive, negative or neutral) of a particular object. Differentiation is the degree of complexity that this particular conception takes and is dependent upon the amount of informational support the individual has to form his attitudinal conception.

By taking the Torkelson notion that conceptualization of the teaching-learning process and its relationship to instructional media will reduce fear of media and coupling it with Acquino's (1970) and Smith's (1972) evidence that increased and more effective utilization is the result of improved attitudes, one could offer the idea that students in the methods course possessed lower overall attitudes toward media because they had not developed strong informational support or conceptualizations of either "teaching", "learning" or "media".

Evidence to support this notion comes from examination of the level, content and group member's teaching experiences in the methods course as compared with the same factors in the media utilization course. The methods course was a junior level, pre-service, pre-student teaching course and was usually the students' first active contact with the teaching-learning process. By comparison, the media course was a junior-senior or graduate level course; some of the students had student taught and a few were even in-service teachers. Most of the students in the media class were two or more semesters advanced in the teacher-education program than were those students in the methods classes.

The implication of course is that the greater amount of education course work, additional teaching experience and the conceptual base for utilization provided in the media course gave the students greater informational support and conceptual differentiation which allowed them to "know" the teaching, learning and media concepts in interrelated ways. Therefore, they were able to exhibit positive attitudes toward media, thereby reducing feelings of fear and distrust. Conversley, the students in the methods course were not given enough conceptual material about these three processes and hence reflected negative attitudes toward media. Bruner's classic notion of "structure of knowledge" suggests that ". . . in order for a person to be able to recognize the applicability or inapplicability of an idea to a new situation and to broaden his learning thereby, he must have clearly in mind the phenomenon with which he is dealing". (Bruner, 1960). Students in the methods classes were not given such underlying affective or cognitive rationale which would allow them to better conceptualize and value the objects within the media field.

The notion that increased experience in teaching and learning helps one further and more adequately develop a personal conception of the teaching-learning process is suggested by the fact that the media extension class members were even more significantly positive in their attitudes toward media than were all other groups.

Another possible explanation for the differences between the attitudes of the media and methods classes lies in the idea that some unexpected treatment was in operation. The methods course involved a great deal of micro-teaching and self-evaluation. Each student experienced five mini-teaches and five playback sessions with supervisory personnel. Fuller and Manning (1973), in reviewing the literature regarding the role of video-playback

in teacher trainee self-confrontation suggest that such encounters can produce emotional arousements such as distress and anxiety in participating individuals. Such predispositions may be prevalent throughout the micro-teaching self-confrontation activity and interfere with an individual's attitudinal set toward media in general.

Also supportive of the "anxiety" notion is the difference between methods and media students on the "Dp" subscale which indicates the amount of depersonalization associated with the use of media. Methods students were significantly more fearful of depersonalization than were the media students. They were also significantly lower than media students in the "F" subscale, indicating less confidence in the affects of the future use of media in the schools. This attitude was probably caused by projecting themselves into future teaching roles and feeling they would have less reliance on media because of the anxiety toward it.

That there was a significant difference in favor of the media extension class over the regular media class on five of the seven subscales just strengthens the theory that the more teachers experience media utilization in the context of real teaching situations, the more confident they are about its use. It is of interest however to note that the inexperienced media class did <u>not</u> differ significantly on the "Th" scale which seems to indicate an absence of the fear factor but a state of readiness to gain experience in using media as they go out to do real teaching.

Given the notion that teacher fear and distrust of educational media might be present in some individuals entering and in others already in the teaching profession and that resistance leads to ineffective and minimal utilization, it is important that educators examine the reasons behind negative attitudes and that some broad strategy be developed to remedy the situation. The simple fact that many colleges of education do not require

students to have media training in the context of strong teaching-learning conceptualizations suggests an area for needed change. Obviously, other studies need to be conducted to determine more accurately the effects of students doing micro-teaching without a broader conceptualization of media utilization.

With the current popularity of mini-courses and modular learning experiences in teacher education, it is even more imperative for instructional designers to build in sufficient positive rationale and to offer students more opportunities to utilize media in teacher education experiences.

Finally, in its broadest sense, the evidence found here implies that teacher educators wishing to develop individuals with positive attitudes toward and subsequent effective utilization of educational media should pay strict attention to the informational support structure they are offering students to make sure it is adequate for conceptualizing the media skills related to teaching.

Figure I

Description of Scales in the Media Attitude Profile

(DP) Depersonalizing Scale	Deals with the aspect of depersonalizing affects of IMT.[1]
(F) Future Scale	Reflects general attitudes toward the increased future applications of IMT in the nation's schools.
(TO) Teacher Organization Scale	Reflects attitudes toward the involvement of teacher organizations in affecting IMT policies and practices in the schools.
(MS) Media Specialist Scale	Reflects attitudes toward media specialists and media personnel.
(S) Student Scale	Reflects attitudes toward the affects of IMT on students.
(T) Teacher Scale	Reflects attitudes toward the affects of IMT on teachers.
(Th) Threat Scale	Deals with the aspect of threat posed by IMT for teachers.

[1]IMT means instructional media technology

TABLE 1

Pre-test scores of all groups

on the MEDIA ATTITUDE PROFILE

Group	Score	Difference*
1. Media class N=33	187.58	ns
2. Methods class N=14	185.79	ns
3. Faculty N=66	190.84	ns
4. Media extension class N=16	191.28	ns

*when f-ratios were compared with any other group

TABLE 2

Means and Standard Deviations of Groups on Scales of the MEDIA ATTITUDE PROFILE

GROUP	Total Score	Scales[1] DP	F	TO	MS	S	T	Th
1. Media class (1)*, Post-test N=33	201.30	15.85 3.13	48.79 6.08	18.79 3.97	34.33 5.07	34.61 4.83	37.63 7.03	11.30 3.11
2. Methods class (1)*, Post-test N=14	192.61	13.86 3.53	46.57 6.82	19.93 3.69	33.36 5.49	33.14 4.96	35.64 5.89	10.71 3.89
3. Media class (2)*, Post-test N=28	191.08	15.00 3.20	46.07 5.61	18.00 3.14	32.43 6.23	32.29 5.83	35.79 4.47	11.50 3.06
4. Methods class (2)*, Post-test N=25	183.14	12.10 2.49	43.44 5.79	18.92 2.20	31.36 4.41	31.08 5.24	35.84 4.71	10.40 2.69
5. Faculty Pre-test N=66	190.84	15.18 3.20	45.65 5.94	16.54 4.53	32.15 5.46	32.80 4.15	37.08 4.76	11.44 2.32
6. Media Extension Class, Post-test N=16	213.13	16.50 2.66	51.75 4.71	19.81 3.80	37.31 2.60	35.94 3.78	39.88 3.63	11.94 1.98

[1]See Figure 1 for description of Scales

*Refers to sections of classes

TABLE 3

Comparison of Groups on Individual Scales of the MEDIA ATTITUDE PROFILE (Initial phase of study)

Groups Compared	DP	F	TO	MS	S	T	Th
Media classes (N=61)	high* ($p < .0002$)	high ($p < .01$)	ns	ns	ns	ns	ns
vs							
Methods classes (N=39)	low	low					
Media Extension class (N=16)	high* ($p < .003$)	high ($p < .0008$)	ns	high ($p < .002$)	high ($p < .01$)	high ($p < .01$)	ns
vs							
Media classes (N=61)	low	low		low	low	low	
Media classes and Methods classes (N=77)	ns	ns	high ($p < .0001$)	ns	ns	ns	ns
vs							
Faculty (N=66)			low				

*"High" in this scale is an inverted value and means that respondents felt media produced little depersonalization.

TABLE 4

Comparison of Groups on Individual
Scales of the MEDIA ATTITUDE PROFILE

(Continuation study)

Groups Compared	Total Score	DP	F	TO	MS	S	T	Th
1. Media classes, post-test only N=45	207.48	15.78 4.70	50.11 9.09	19.62 4.29	34.55 7.31	34.24 6.13	39.78 6.85	13.40 3.56
"t" values, comparing 1. and 2.		2.34*	2.93*	3.45*	3.08*	3.43*	2.65*	2.67*
2. Methods classes, post-test only N=37	179.95	13.68 3.05	44.22 9.05	16.46 3.91	29.68 6.88	29.24 7.08	35.35 8.30	11.32 3.44

*significance < .05.

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